

WHAT IS CLAIMED IS:

1. A composition comprising a purified phospholipase enzyme characterized by (a) activity in the absence of calcium; (b) a molecular weight of 86 kD on SDS-PAGE; and (c) the presence of one or more amino acid sequences selected from the group consisting of YGASPLHXAK, MKDEVFR, EFGEHTK, VMLTGTLSDR, XXGAAPTYFRP and TVFGAK, wherein X represents any amino acid residue.
2. The composition of claim 1 wherein said enzyme is further characterized by activity in a mixed micelle assay with 1-palmitoyl-2-[¹⁴C]-arachidonyl-phosphatidylcholine.
3. The composition of claim 2 wherein said enzyme has a specific activity of about 1 μ mol to about 20 μ mol per minute per milligram.
4. The composition of claim 1 wherein said enzyme is further characterized by a pH optimum of 6.
5. The composition of claim 1 wherein said enzyme is further characterized by the absence of stimulation by adenosine triphosphate.
6. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:
 - (a) the nucleotide sequence of SEQ ID NO:16;

- (b) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:17;
- (c) a nucleotide sequence encoding a fragment of the amino acid sequence of SEQ ID NO:17 having ^{enzymatic} activity in a mixed micelle assay with 1-palmitoyl-2-[¹⁴C]-arachidonyl-phosphatidylcholine;
- (d) the nucleotide sequence of SEQ ID NO:18;
- (e) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:19;
- (f) a nucleotide sequence encoding a fragment of the amino acid sequence of SEQ ID NO:19 having activity in a mixed micelle assay with 1-palmitoyl-2-[¹⁴C]-arachidonyl-phosphatidylcholine;
- (g) the nucleotide sequence of SEQ ID NO:20;
- (h) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:21;
- (i) a nucleotide sequence encoding a fragment of the amino acid sequence of SEQ ID NO:21 having activity in a mixed micelle assay with 1-palmitoyl-2-[¹⁴C]-arachidonyl-phosphatidylcholine;
- (j) the nucleotide sequence of SEQ ID NO:22;
- (k) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:23;
- (l) a nucleotide sequence encoding a fragment of the amino acid sequence of SEQ ID NO:23 having activity in a mixed micelle assay with 1-palmitoyl-2-[¹⁴C]-arachidonyl-phosphatidylcholine;
- (m) a nucleotide sequence capable of hybridizing ^{under string conditions} with the sequence of any of (a)-(l) which encodes a peptide having activity in a mixed micelle assay with 1-palmitoyl-2-[¹⁴C]-arachidonyl-phosphatidylcholine; and

(n) allelic variants of the sequence of (a), (d), (g) or (j).

7. An expression vector comprising the polynucleotide of claim 6 and an expression control sequence.

8. A host cell transformed with the vector of claim 7.

9. A process for producing a phospholipase enzyme, said process comprising:

(a) establishing a culture of the host cell of claim 8 in a suitable culture medium; and

(b) isolating said enzyme from said culture.

10. A composition comprising a peptide made according to the process of claim 9.

11. A composition comprising a peptide encoded by the polynucleotide of claim 6.

12. A composition comprising a peptide comprising an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of SEQ ID NO:17;

(b) a fragment of the amino acid sequence of SEQ ID NO:17 having activity in a mixed micelle assay with 1-palmitoyl-2-[¹⁴C]-arachidonyl-phosphatidylcholine;

(c) the amino acid sequence of SEQ ID NO:19;

- (d) a fragment of the amino acid sequence of SEQ ID NO:19 having activity in a mixed micelle assay with 1-palmitoyl-2-[¹⁴C]-arachidonyl-phosphatidylcholine;
- (e) the amino acid sequence of SEQ ID NO:21;
- (f) a fragment of the amino acid sequence of SEQ ID NO:21 having activity in a mixed micelle assay with 1-palmitoyl-2-[¹⁴C]-arachidonyl-phosphatidylcholine;
- (g) the amino acid sequence of SEQ ID NO:23; and
- (h) a fragment of the amino acid sequence of SEQ ID NO:23 having activity in a mixed micelle assay with 1-palmitoyl-2-[¹⁴C]-arachidonyl-phosphatidylcholine.

13. A method for identifying an inhibitor of phospholipase activity, said method comprising:

- (a) combining a phospholipid, a candidate inhibitor compound, and a composition comprising a phospholipase enzyme peptide; and
- (b) observing whether said phospholipase enzyme peptide cleaves said phospholipid and releases fatty acid thereby,

wherein said composition is the composition of claim 1.

14. An inhibitor of phospholipase activity identified according to the method of claim

13.

15. A pharmaceutical composition comprising a therapeutically effective amount of the inhibitor of claim 14 and a pharmaceutically acceptable carrier.

16. A method of reducing inflammation comprising administering a pharmaceutical composition of claim 15 to a mammalian subject.

17. A composition comprising an antibody which binds to the peptide of the composition of claim 1.

18. The composition of claim 17 wherein said antibody is polyclonal.

19. The composition of claim 17 wherein said antibody is monoclonal.

20. The polynucleotide of claim 6 comprising the nucleotide sequence of SEQ ID NO:16.

21. The polynucleotide of claim 6 comprising a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:17.

22. The polynucleotide of claim 6 comprising the nucleotide sequence of SEQ ID NO:18.

23. The polynucleotide of claim 6 comprising a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:19.

24. The polynucleotide of claim 6 comprising the nucleotide sequence of SEQ ID NO:20.

25. The polynucleotide of claim 6 comprising a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:21.

26. The polynucleotide of claim 6 comprising the nucleotide sequence of SEQ ID NO:22.

27. The polynucleotide of claim 6 comprising a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:23.

28. A composition comprising a purified mammalian calcium independent phospholipase A₂/B enzyme.